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September 29, 1960

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Dear Josh:

I think I have the man, Mr. Elliot Packer. He was sent to me by Dr. Lester Packer, his cousin, who had worked with me as an undergraduate. Packer dove into biochemistry then began running my main personal experiments under only brief and general supervision. Packer has just obtained his B.A. at Columbia. Hayashi and Ryan think very well of him. His undergraduate grades were poor because he was trying to find himself, first as a professional musician, then as a professional artist. Now that he's interested in comparative biochemistry things are altogether different. He's very handy and a born experimenter -- he needed practically no instruction on how to design experiments, endlessly patient with details without being a fusspot, and with a steady, unemotional drive. And resourcefulness! I though that as a native New Yorker I knew a thing or two, but his trick of sticking an old parking ticket on his windshield whenever he had to park his jalopy near the lab and so gaining immunity, elicited general awe. In doing experiments he's completely honest -- no cutting corners -- he has an aesthetic appreciation of an elegant experiment. And he has the constitution of a bear.

My opinion is shared by everybody here -- Helene Nathan, Sheldon Aaronson, and Moshe Shifrine of the Veterinary College at Davis -- Shifrine and Packer worked together for 5 weeks the past summer in my lab; as a result Shifrine tried very hard to get him admitted to Davis. I had induced Jack Stokes to accept him at Washington State, but Packer couldn't go out

there because his draft status was unclear. It looks now as though he'll be admitted to a special 2-months training in the Air Force, and that will take care of that.

Packer has learned my bag of tricks without noticeable sweat. He loves genetics, and as a good mathematician can handle theory. He's done isolation work.

We've found out that a bug Pringsheim gave us, Ochromonas danica, seems to be downright human in the way it responds to all sorts of metabolic stress, such as induced by loading it an excess of certain amino acids or running the temperature up. It then seems to call upon an energy system that centers around beta-hydroxybutyrate, and which we suspect may be phylogenetically older than glycolysis or the Krebs cycle. (Stanier has written about hydroxybutyrate as a food reserve in bacteria.) It may at last bring out into the open the system on which the anti-shock corticoid hormones work. Packer will be senior author of these papers -- he's a pretty good writer as well as organizer.

I would suggest that he be enrolled in the grad school at Stanford, even if on a provisional basis. His imagination had been quite caught by your Science article -- he'd read it -- when it came out. Any techniques he would need that are unfamiliar e.g., use of an anaerobic jar, he could pick up by working a while in a bacteriological diagnostic lab. He's had about all the basic stuff -- organic chem, calculus, languages.

As for your program, it looks tough but workable. In fact we've been spending a lot of effort on sterilization techniques. We're beginning to think that propylene glycol has some very desirable properties -- from 30-100% very toxic -- will sterilize soil; diluted, it turns into a very fine food. So it might do as an antiseptic, non-volatile, yet non-poisonous dip for equipment to be sterilized. Packer has done most of this.

The question of the continuous tape is one that came up at a meeting called by the Div. Chem. & Chem. Technology of the N.R.C. in Washington some months ago. This is of great interest to the Fort Detrick people and the U.S. Public Health Service. Their object is a continuous monitoring of the air for particles. I wonder whether you've been in touch with them. The proceedings will be published about Feb 1961 in the Microchemical Journal.

Things are going well. In April I'll be in England for their 1961 symposium -- "Effects of environment on microbes". We're finding that the activity of the streptomycin family of antibiotics in bleaching Euglena correlates beautifully with ability to damage the 8th cranial nerve -- which leaves that mystery deeper than ever -- also, we're finding entirely different compounds that cause permanent bleaching.

So -- regards to Esther, and I hope we can get together. I don't have as yet a passionate interest in exobiology -- just a reading interest -- but I'm not completely set in my ways.

Yours

Seymour

S. H. Hutner

SHH/ph